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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,482	09/16/2003	Kousaku Yoshimura	Q77503	9632

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EXAMINER

SHAH, MANISH S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,482

Applicant(s)

YOSHIMURA ET AL.

Examiner

Manish S. Shah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/16/03; 3/16/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-10 & 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshino et al. (# US 5955185).

Yoshino et al. discloses an inkjet recording medium including support; and an ink receiving layer disposed on the support (see Abstract), the ink receiving layer containing at least fine polymer particles and having porous structure (see Abstract; [0014]), wherein a pore volume in the ink receiving layer at the pore diameter equal to the average particle diameter of the fine polymer particle is 8 ml/m^2 ($8 \times 10^{-3} \text{ ml/cm}^2$) (column: 8, line: 5-10). They also disclose that the image receiving layer has a thickness of from 20 to 100 micro meter (column: 19, line: 24-30), so the ink receiving layer has a pore volume per unit thickness is $8 \times 10^{-3} / 20 = 4 \times 10^{-4} \text{ ml/cm}^2/\mu\text{m}$. They also disclose that the second particles of the fine polymer particles constitute the porous structure of the ink-receiving layer (see Examples). They also discloses that the ink-receiving layer further contains a cross-linking agent and mordant (see Examples). They also disclose that the total volume of the pores in the ink-receiving layer is at least 80% (column: 8, line: 29-35), and the maximum peak in the pore radius distribution of the ink-receiving

layer is 2 to 20 nm (pore diameter is from 2 to 40 nm) (column: 7, line: 40-45). They also disclose that the fine polymer particle (alumina hydrate) have an average particle diameter of 1.0 to 50 nm (column: 6, line: 65-67). They also disclose that the ink-receiving layer further contains a water-soluble resin, which is selected from poly vinyl alcohol or modified substance thereof, gelatin, cellulose derivative (column: 14, line: 1-10), and mixing ratio of the fine polymer particle (alumina hydrate) and binder is in the range of 5:1 to 20:1 (column: 14, line: 10-15). They also disclose that the content of the water-soluble resin is 4 to 25% by weight (see Examples).

2. Claims 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshino et al. (# US 5955185).

Yoshino et al. discloses an image forming method including the step of applying an ink to an ink receiving layer of an ink jet recording medium so as to form an image (see Abstract; column: 17, line: 25-45), wherein the ink receiving layer containing at least fine polymer particles and having porous structure (see Abstract; [0014]), wherein a pore volume in the ink receiving layer at the pore diameter equal to the average particle diameter of the fine polymer particle is 8 ml/m^2 ($8 \times 10^{-3} \text{ ml/cm}^2$) (column: 8, line: 5-10). They also disclose that the image receiving layer has a thickness of from 20 to 100 micro meter (column: 19, line: 24-30), so the ink receiving layer has a pore volume per unit thickness is $8 \times 10^{-3} / 20 = 4 \times 10^{-4} \text{ ml/cm}^2/\mu\text{m}$. They also disclose that the second particles of the fine polymer particles constitute the porous structure of the ink-receiving layer (see Examples). They also disclose that the total volume of the pores in the ink-

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receiving layer is at least 80% (column: 8, line: 29-35), and the maximum peak in the pore radius distribution of the ink-receiving layer is 2 to 20 nm (pore diameter is from 2 to 40 nm) (column: 7, line: 40-45). They also disclose that the fine polymer particle (alumina hydrate) have an average particle diameter of 1.0 to 50 nm (column: 6, line: 65-67).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2 & 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Yau et al. (# US 2004/0090512 A1).

Yau et al. discloses an inkjet recording medium including support; and an ink receiving layer disposed on the support, the ink receiving layer containing at least fine polymer particles and having porous structure (see Abstract; [0014]), wherein a pore volume in the ink receiving layer at the pore diameter equal to the average particle diameter of the fine polymer particle is 5 to 50 ml/m² (5×10^{-3} to 50×10^{-3} ml/cm²) ([0037]). They also disclose that the image receiving layer has a thickness of from 10 to 100 micro meter ([0037]), so the ink receiving layer has a pore volume per unit thickness is $5 \times 10^{-3} / 10 = 5 \times 10^{-4}$ ml/cm²/μm. They also disclose that the second particles of the fine polymer particles constitute the porous structure of the ink-receiving layer ([0030]). They also discloses that the ink-receiving layer further contains a cross-linking agent and mordant (see Examples; [0035]).

4. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Yau et al. (# US 2004/0090512 A1).

Yau et al. discloses an image forming method including the step of applying an ink to an ink receiving layer of an ink jet recording medium so as to form an image (see Abstract; [0012]-[0015]), wherein inkjet recording medium including support; and an ink receiving layer disposed on the support, the ink receiving layer containing at least fine polymer particles and having porous structure (see Abstract; [0014]), wherein a pore volume in the ink receiving layer at the pore diameter equal to the average particle diameter of the fine polymer particle is 5 to 50 ml/m² (5×10^{-3} to 50×10^{-3} ml/cm²) ([0037]). They also disclose that the image receiving layer has a thickness of from 10 to 100 micro meter ([0037]), so the ink receiving layer has a pore volume per unit thickness is $5 \times 10^{-3} / 10 = 5 \times 10^{-4}$ ml/cm²/μm. They also disclose that the second particles of the fine polymer particles constitute the porous structure of the ink-receiving layer ([0030]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshino et al. (# US 5955185) in view of Onishi et al. (# US 5662997).

Yoshino et al. discloses all the limitation of the inkjet recording medium except that the partially saponified poly vinyl alcohol have a degree of saponification of 65 to 90%.

Onishi et al. teaches that to get the good printing property, ink-receiving layer has a partially saponified poly vinyl alcohol have a degree of saponification of 80 to 95% (column: 2, line: 5-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink-receiving layer of Yoshino et al. by the aforementioned teaching of Onishi et al. in order to have a recording medium with good printing property, and good formability.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

5/26/05